

Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, DC 20554

In the Matter of)
)
 Amendment of the Commission's Rules)
 for Unlicensed Personal Communications)
 Services)

RM-9498

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 FEDERAL COMMUNICATIONS COMMISSION
 OFFICE OF THE SECRETARY

To: The Commission

COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED

The American Radio Relay League, Incorporated (the League), the national association of amateur radio operators in the United States, by counsel and pursuant to Section 1.405(a) of the Commission's Rules [47 C.F.R. §1.405(a)], hereby respectfully submits its comments in response to the Petition for Rule Making (the Petition), filed on or about January 8, 1999 by the Wireless Information Networks Forum (WINForum). Public Notice of the filing of the petition was given by the Commission March 10, 1999. Therefore, these comments are timely filed. For its comments, the League states as follows:

1. The WINForum Petition requests modification of the rules governing Unlicensed Personal Communications Services (U-PCS) devices in various bands, including 1910-1930 MHz and 2390-2400 MHz. The 1910-1930 MHz segment is divided into two bands of ten megahertz each. The lower portion of that segment is available under present rules for asynchronous (e.g., packet data) devices, and the upper portion for isochronous (regular, periodic transmissions typical of circuit-switched communications) devices. The 2390-2400 MHz band is available for asynchronous devices only.

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2. The Petition suggests that the bands available for asynchronous U-PCS listed above have not been utilized to any significant extent, though a market reportedly exists for such devices. WINForum suggests, by contrast, that isochronous systems are being deployed by at least ten manufacturers, using the band segment available for isochronous U-PCS operation. No asynchronous PCS systems have been deployed at 1910-1920 MHz or 2390-2400 MHz, however. WINForum suggests that this is due to extant restrictions on the use of asynchronous U-PCS devices in those bands. The petition requests relief of operating restrictions therein. Among the regulatory changes proposed is the continuation of authorization of asynchronous U-PCS devices in the 2390-2400 MHz band, with the addition of an alternative set of access rules that do not require the "listen before transmit" (LBT) etiquette. LBT, now required by Section 15.321(c) of the Rules, requires monitoring before the devices transmit, to minimize the potential for interference with ongoing communications on the operating channel.

3. The WINForum Petition also includes a request to increase the maximum limit on antenna gain for all U-PCS devices, and various other technical changes.

4. The League's interest in this proceeding is with respect only to the 2390-2400 MHz segment, and the operation of asynchronous U-PCS devices in that band. The band was made available for asynchronous U-PCS at the same time that the Commission upgraded the Amateur Service allocation in that band from secondary to primary. *See, the First Report and Order and Second Notice of Proposed Rule Making, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use*, 10 FCC Rcd. 4769, 77 RR 2d 314, (1995). Therein, the Commission determined that compatible sharing could exist between asynchronous U-PCS Part 15 devices

and radio amateurs due to the incorporation in U-PCS devices of certain specific technical standards and limitations:

We will regulate unlicensed PCS devices in accordance with the technical standards currently embodied in Part 15, Subpart D of the Rules. Because we already have existing rules for unlicensed PCS in place, we believe that it is appropriate to apply them to devices that will use the 2390-2400 MHz band. Accordingly, the power levels, emission limits, and the spectrum etiquette for unlicensed PCS devices operating at 2390-2400 MHz shall be consistent with requirements for asynchronous devices operating at 1910-1920 MHz. Also, consistent with the use of the 1910-1920 MHz band, asynchronous devices operating in the 2390-2400 MHz band must have a bandwidth of 500 kHz or greater...

We note that the *Notice* did not contain a specific discussion of technical rules for unlicensed PCS devices. However, we have concluded that an additional notice and comment period regarding rules for unlicensed PCS devices is unnecessary and would be contrary to the public interest. First, it is unnecessary because we already have rules in place governing the operation of unlicensed asynchronous PCS devices. Second, providing a notice and comment period would be contrary to the public interest because it would unnecessarily delay the availability of unlicensed PCS devices...

77 RR 2d at 320

The Commission had, in the same document, noted that devices operating under Part 15 generally had proven to be effective in operating in shared environments with other services, including the Amateur Service:

We recognize the value of maintaining adequate spectrum for the Amateur Service and we believe that the generally robust nature of PCS devices will make it feasible for unlicensed PCS devices and Amateur operations to operate on a shared basis in this band. In addition, both [Apple Computer] and [the League] believe that shared use of this band is possible [footnote omitted]. Accordingly, we are providing for the continued availability of the 2390-2400 MHz band for Amateur operations, and are increasing the status of the Amateur Service in this

band to primary. Considering past experience of Part 15 devices and Amateur service users operating in a shared environment, we do not believe that it is necessary to adopt specific provisions for protecting either of these operations.

77 RR 2d at 319.

5. The League was, and remains, satisfied that the rules set forth in Sections 15.319 and 15.321 of the Commission's Rules are and have been sufficient to enable compatible use of the 2390-2400 MHz segment by asynchronous U-PCS devices, without interference to primary amateur operations. Neither does the League oppose the proposed rule changes set forth in the WINForum petition relative to the 2390-2400 MHz band, with certain conditions. The most important of these is that there be no power increase permitted for asynchronous U-PCS devices at 2390-2400 MHz. There must additionally be no change in the maximum power spectral density (3 mW in any 3 kHz bandwidth) set forth in Section 15.319(d) of the Rules. These provisions were each essential portions of the understanding reached between the League and Apple Computer during the Docket 94-32 proceeding that resulted in League support of the U-PCS authorization at 2390-2400 MHz.

6. The League is unconvinced that the LBT requirement is an essential element of compatibility between U-PCS and amateur operation at 2390-2400 MHz, since it does not necessarily prevent interference to amateur receivers engaged in weak-signal communications over long paths from interference from proximate U-PCS devices. The WINForum proposed alternative to LBT, which is to impose a duty cycle limit (transmit duty cycle not greater than 25% of any one-second interval, unless the device is part of a system of such devices, and aggregate transmit duty cycle of any group of devices not greater than 50%) in order to prevent

any single system from dominating the band, is acceptable, though the proposed duty cycle is generous, and therefore offers little interference protection to radio amateurs. The League finds little evidence, however, and the WINForum petition offers none, for the speculative suggestion that the LBT requirement in Section 15.321(c) of the rules has deterred interest in asynchronous U-PCS in the 2390-2400 MHz band. In any case, since the LBT requirement does not appear to be an essential element of interference avoidance to amateur operations at 2390-2400 MHz, the League interposes no objection to the proposed change.

7. The WINForum petition proposes to increase, from 3 dBi to 6 dBi, the maximum permitted antenna gain for asynchronous U-PCS devices before requiring reduction of power by 1 dB for each additional dB by which the antenna gain exceeds the maximum. The justification offered by WINForum is that occasionally, certain low-gain antennas may have incidental lobes for which the gain exceeds 3 dBi. Furthermore, the increase, according to WINForum, is consistent with that permitted for spread spectrum devices operating in the ISM bands pursuant to Section 15.247 of the Rules.

8. The League finds insufficient technical justification in the petition for the doubling of permitted antenna gain in this band. There is no comparison between asynchronous U-PCS devices, which have a minimum bandwidth of only 500 kHz, and spread spectrum devices operating in accordance with Section 15.247. If, as WINForum states, the need is for some flexibility in design and testing of devices, the Commission should not necessarily be asked to double the permitted antenna gain on a blanket basis. If indeed a given device has antenna lobes

that exceed 3 dBi, that is accommodated in the existing rules by requiring that the device reduce transmit power by 1 dB for each dB of additional gain. The Commission's laudable goal is to have some degree of predictability in the aggregate RF levels of these ubiquitous devices, and there should be provided additional justification offered. Therefore, the League questions the need for the proposed increase in maximum antenna gain at this time.

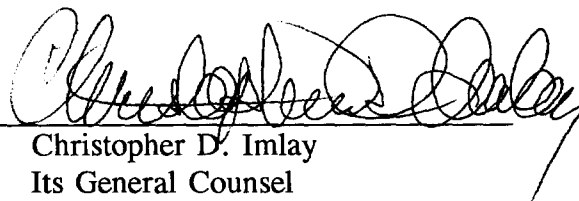
9. Though there is no change in power, or power spectral density requested by WINForum, the League would reiterate, should the subject be raised in this proceeding, that the agreement reached with asynchronous U-PCS proponents in Docket 94-32 was premised on the power spectral density limits set forth in the current Sections 15.319 and 15.321 of the Commission's Rules. The League requests under any circumstances that the Commission make no change that would affect those limits whatsoever.

10. Subject to the caveats incorporated hereinabove, the League has no other concern with the WINForum Petition, or the relief requested therein, and interposes no objection to the issuance of a Notice of Proposed Rule Making including those changes.

Therefore, the foregoing considered, the American Radio Relay League, Incorporated respectfully requests that the Commission, in any Notice of Proposed Rule Making released in this proceeding, configure any proposed changes to Sections 15.319 and 15.321 in accordance with the foregoing comments.

Respectfully submitted,

**THE AMERICAN RADIO RELAY
LEAGUE, INCORPORATED**

By: 
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April 9, 1999

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED** was sent this 9th day of April, 1999, by first class mail, postage prepaid, to the following:

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Mary Ann Hermann
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